the non-priority period is a contention period for the wireless local area network, and the second interframe space value is on the order or longer than of a legacy interframe space value used by legacy wireless local area networking elements.

10. The method of claim **8**, wherein the priority period has a fixed frame structure such that delay of transmission based on the presence of an ongoing transmission shortens the time available for transmission during the priority period.

11. The method of claim **8**, wherein the priority period has a flexible frame structure such that delay of transmission extends the priority period.

12. The method of claim **8**, wherein the priority period is dedicated either to uplink or to downlink transmission.

13. The method of claim **8**, wherein the priority period has an uplink phase and a downlink phase with a transition between uplink and downlink occurring during the priority period.

14. The method of claim **8**, wherein the criterion indicating the end of the ongoing transmission comprises an acknowledgement following the end of the ongoing transmission or a duration indicated in a request to send or clear to send message.

15. A computer readable medium storing a program of instructions, execution of which by a processor configures an apparatus to at least:

before the beginning of a priority period, examine a transmission medium for an ongoing transmission;

in response to detection of an ongoing transmission from a second apparatus extending past the scheduled beginning of the priority period, wait for the fulfillment of a specified criterion indicating an end of the ongoing transmission;

in response to fulfillment of the specified criterion, schedule transmission of the first data frame, followed by a first interframe space value after the ongoing transmission; and

during a non-priority period, schedule transmission of the first data frame, followed by a second interframe space value, wherein the second interframe space value is greater than the first interframe space value.

16. The computer readable medium of claim **15**, wherein the priority period is a contention free period for a wireless local area network and the non-priority period is a contention period for the wireless local area network, and the second interframe space value is on the order of or longer than a legacy interframe space value used by legacy wireless local area networking elements.

17. The computer readable medium of claim **15**, wherein the priority period has a fixed frame structure such that delay of transmission based on the presence of an ongoing transmission shortens the time available for transmission during the priority period.

18. The computer readable medium of claim **15**, wherein the priority period has a flexible frame structure such that delay of transmission extends the priority period.

19. The computer readable medium of claim **15**, wherein the priority period is dedicated either to uplink or to downlink transmission.

20. The computer readable medium of claim **15**, wherein the priority period has an uplink phase and a downlink phase with a transition between uplink and downlink occurring during the priority period.

21. The computer readable medium of claim **15**, wherein the criterion indicating the end of the ongoing transmission comprises an acknowledgement following the end of the ongoing transmission or a duration indicated in a request to send or clear to send message.

* * * * *